



Photoelectric sensors  
V18V, Photoelectric proximity sensor,  
Background suppression

VTB18-4P1240VS01



**Model Name** > **VTB18-4P1240VS01**  
**Part No.** > **6037754**



*Illustration may differ*

**At a glance**

- IP 69K-rated cylindrical photoelectric sensor with background suppression in M18 stainless steel housing with 140 mm sensing distance
- Resistant to all common cleaning agents and certified by independent institutes
- Extended temperature range: +85° C (long-term), +100°C / 15 min. (short-term)
- Touch (smart) teach-in adjustment
- All sensor materials, including the housing, LED and lens are resistant to chemicals
- IP 69K and IP 68 according to DIN 40050
- Laser-etched part numbers
- Ecolab & JohnsonDiversey certified for chemical resistance

**Your benefits**

- Simple, time-saving design and easy mounting, alignment and replacement
- Precise background suppression ensures reliable detection of objects regardless of color
- IP 69K-rated stainless steel housing has a long service life that withstands hygienic and wash down environments, reducing maintenance time and costs
- Unique touch-teach feature and lock/ unlock functionality allow users to control who can change the sensor setting, which reduces the chances of disturbing a proven process and saves commissioning and maintenance time
- Laser-etched part numbers ensure the part numbers will not be washed off, saving maintenance time



**Features**

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Housing design (light emission):	Cylindrical, straight, straight
Housing length:	83 mm
Thread diameter (housing):	M18 x 1
Sensing range max.:	0 mm ... 100 mm <sup>1)</sup>
Sensing range:	0 mm ... 100 mm
Type of light:	Visible red light
Light source:	LED <sup>2)</sup>
Light spot (distance):	3 mm (100 mm)
Wave length:	660 nm
Adjustment of operating distance:	Manual, via Touch-Teach-in

<sup>1)</sup> Object with 90 % reflectance (referred to standard white DIN 5033) <sup>2)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

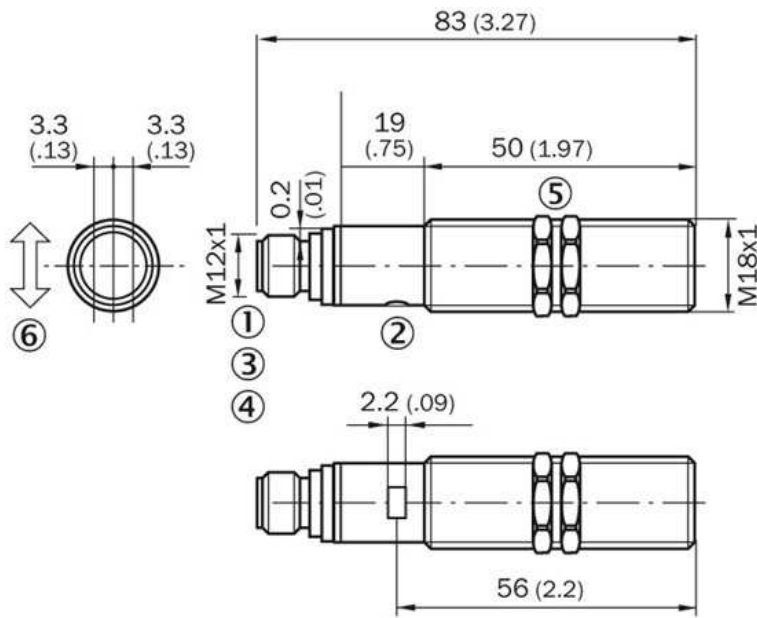
## Mechanics/electronics

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Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Residual ripple:	≤ 10 % <sup>2)</sup>
Power consumption:	≤ 50 mA <sup>3)</sup>
Output type:	PNP, Light/dark-switching, Selectable via L/D control wire, open collector
Signal voltage PNP HIGH/LOW:	Approx. VS - 2.0 V / 0 V
Output current I <sub>max</sub> :	≤ 100 mA
Response time:	≤ 1.25 ms <sup>4)</sup>
Switching frequency:	400 Hz <sup>5)</sup>
Electrical connection:	Connector M12, 4-pin <sup>6)</sup>
Cable material:	PPS (Griamid)
Circuit protection:::	A, B, C, D <sup>7)</sup> <sup>8)</sup> <sup>9)</sup> <sup>10)</sup>
Protection class:	III
Weight:	120 g
Special device:	✓
Housing material:	Stainless steel V4A (1.4404, 316L)
Optics material:	Plan, PPS (Grilamid)
Enclosure rating:	IP 67 IP 68 <sup>11)</sup> IP 69K
Ambient temperature operation:	-25 °C ... 80 °C <sup>12)</sup>
Ambient storage temperature:	-40 °C ... 80 °C
UL File-No.:	FDA, UL No. NRKH.E181493 & cUL No. NRKH7.E181493

<sup>1)</sup> Limit values <sup>2)</sup> May not exceed or fall short of V<sub>S</sub> tolerances <sup>3)</sup> Without load, at VS 30 V DC <sup>4)</sup> Signal transit time with resistive load <sup>5)</sup> With light/dark ratio 1:1 <sup>6)</sup> With gold plated contact pins, PPS with FDA certificate <sup>7)</sup> A = V<sub>S</sub> connections reverse-polarity protected <sup>8)</sup> B = interference suppression <sup>9)</sup> D = outputs overcurrent and short-circuit protected <sup>10)</sup> D = inputs and output reverse-polarity protected <sup>11)</sup> With correct mounted IP 69K connector <sup>12)</sup> +100 °C at max 15 minutes

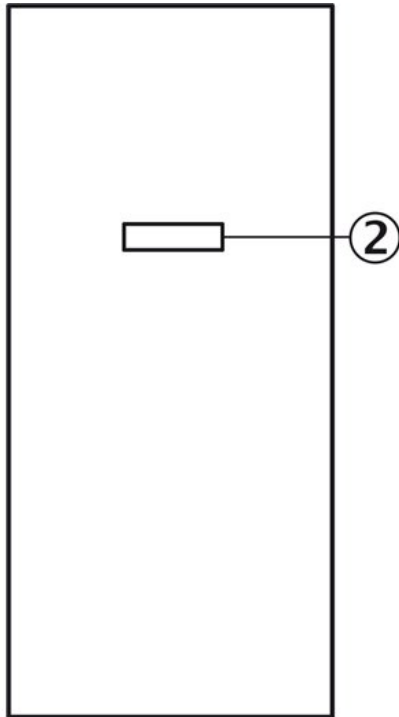
## Dimensional drawing



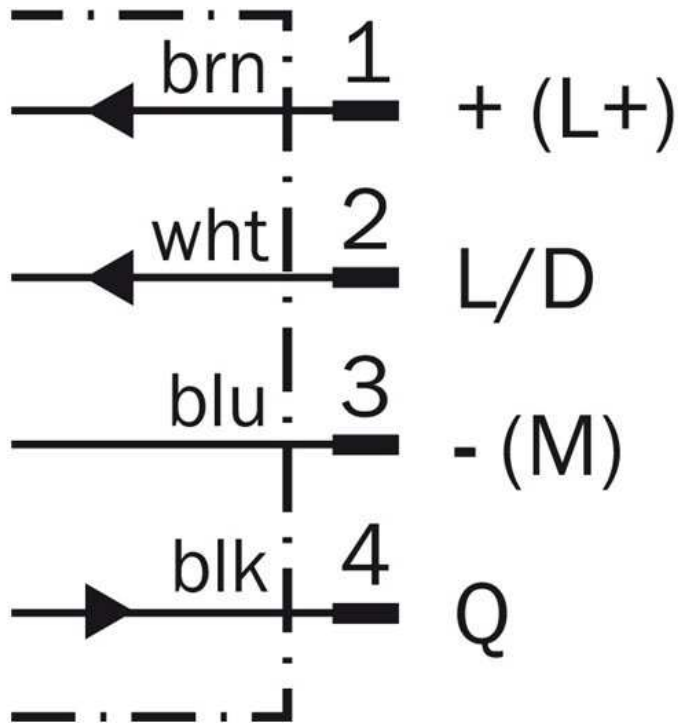
- |1| Connector M12, 4-pin
- |2| Sensing range adjustment: Touch-Teach-In
- |3| Status indicator LED, green: signaling Touch-Teach-in
- |4| Status indicator LED,  
yellow: Status of received light beam
- |5| fastening nuts (2 x); width across 24, stainless steel
- |6| Standard direction of the material being scanned

All dimensions in mm (inch)

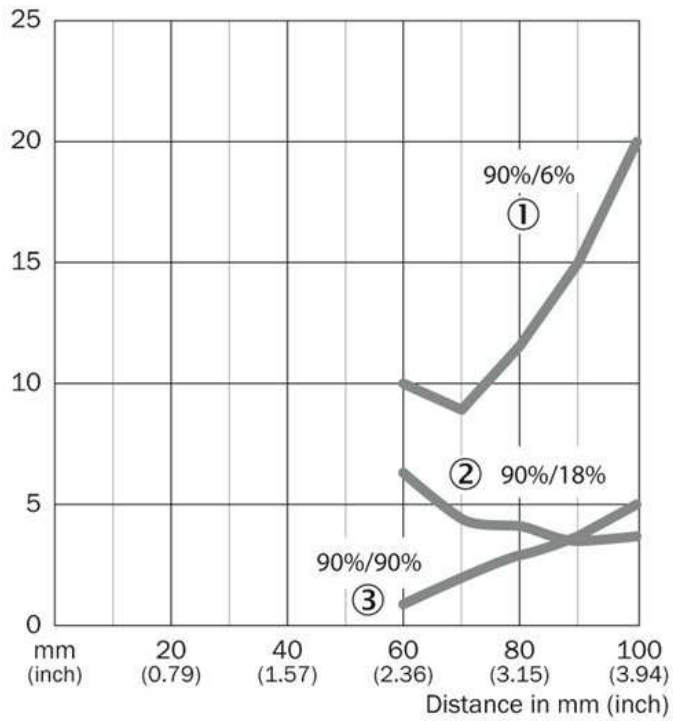
## Adjustments possible



Connection diagram



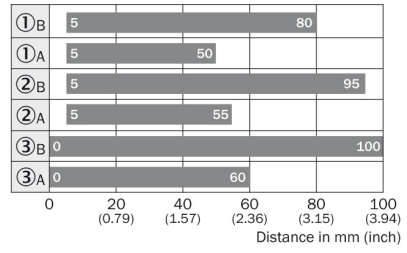
Characteristic curve



## Connection type



## Sensing range diagram



■ Sensing range

- ① Sensing range on black, 6 % remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90 % remission
- A Sensing range adjuster on MIN
- B Sensing range adjuster on MAX

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